

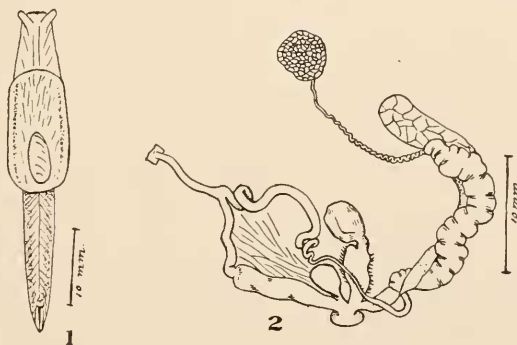
MONTANA SHELLS.

BY E. G. VANATTA.

Mr. L. E. Daniels collected the following species of shells in the Bitter Root Mountains, Montana:

Hemphillia danielsi n. sp. Figs. 1, 2.

Animal sluglike, with the shell partly exposed, and the mantle elevated into a visceral hump, as usual in this genus. The color in formaline is yellowish-gray with bluish-black markings, but in alcohol it is white with black maculations. The shell pore is about $\frac{1}{3}$ the length of the mantle. The posterior part of the foot is narrow, with a dorsal median groove and a tail pore. The ovo-testis, fig. 2, has a grayish color with black pigment where the ends of the follicles



are in contact; albumen gland is yellow; the vas deferens is narrow, enlarged near the uterus; epiphallus long, narrow, and coiled where it joins the vas deferens, and at the insertion of the penis retractor which is as usual attached to the retensor muscle; penis long, conical, tapering towards the atrium, where there is a broad gland; penis papilla short and conical; spermatheca globular on a broad duct which is attached to the body wall in its lower part. Length 34 mm.

Types in the collection of the Academy of Natural Sciences 110,052, from Camas Creek in the Bitter Root Mountains, Montana, collected by Mr. L. E. Daniels, in whose honor I take pleasure in naming the species. Another specimen used to figure the external form is from Medicine Hot Springs, Mont.

This species differs from *H. camelus* P. and V. by having a caudal mucous pore, a narrow tail, and the penis is narrower, with a gland at the base. The mantle is papillose like *H. glandulosa* B. and B., but it does not have the "horn" on the tail.

***Oreohelix cooperi* Binn.**

This species was collected near Lake Como; north side of Camas Creek Canyon at an elevation of 8,000 feet; south side of Camas Creek Canyon at an elevation of 7,000 feet; north fork of Lost Horse Canyon; Lost Horse Canyon; Medicine Hot Springs; Warm Spring Canyon near hotel; Warm Spring Canyon above Medicine Hot Springs, Mont.

***Polygyra ptychophora* Br.**

This shell was found at Bitter Root Valley; Lost Horse Creek near Charles; White's Spring, west of Ward; bluff north side of Bitter Root River north of Ward; north end of Ward Mountain; west side of the Rocky Mountains near Ward; Camas Creek Canyon; north fork Lost Horse Canyon, 8,500 feet; Lost Horse Canyon; east side of the Rocky Mountains at Darby; Warm Spring Canyon near and below the hotel, west side of the Rocky Mountains; Warm Spring Canyon one mile above Medicine Hot Springs, on the west side of the Rocky Mountains; also one-quarter of a mile below the hotel.

***Polygyra ptychophora* Br. form *castanea* Hemp.**

This color form was taken at Bitter Root Valley; White's Spring, west of Ward; bluff north side of Bitter Root River north of Ward; north end of Ward Mountain; west side of the Rocky Mountains near Ward; near Lake Como; Camas Creek Canyon; north fork Lost Horse Canyon; at an elevation of 8,500 feet in Lost Horse Canyon; east side of the Rocky Mountains at Darby; Warm Spring Canyon below the hotel, west side of the Rocky Mountains.

***Polygyra devia oregonensis* Hmp.**

Was collected at Bitter Root Valley; bluffs near Bitter Root River, north of Ward; Lost Horse Creek near Charles; south side of Saw Tooth Mountain; west side of the Rocky Mountains, near Ward.

***Polygyra devia blandi* Hmp.**

This variety was collected near Lake Como, Bitter Root Mountains, Mont.

Thysanophora ingersolli Bld.

Camas Creek Canyon; Lost Horse Canyon at 8,500 feet elevation and Medicine Hot Springs, Mont.

Polita hammonis Ström.

Was collected at Hamilton; west side of Bitter Root River near Ward; White's Spring, west of Ward; west side of Bitter Root River, north of Ward; Lost Horse Creek near Charlos; east side of Bitter Root River, near Charlos; Ward; near Lake Como at 10,000 feet elevation; Grantsdale; Darby, Mont.

Zonitoides arborea Say.

This shell was found at White's Spring, west of Ward; west side of Bitter Root River, north of Ward; Lost Horse Creek, near Charlos; Gold Creek at the foot of Ward Mountain; Saw Tooth Mountain; north end of Ward Mountain, near Ward, 4,825 feet elevation; east side of Bitter Root River near Charlos; Grantsdale; Camas Creek Canyon; Darby; Medicine Hot Springs, Mont. Some specimens were very large.

Zonitoides nitidus Müll.

Was collected at White's Spring, west of Ward; Darby, Mont.

Vitrina alaskana Dall.

From Hamilton, White's Spring, west of Ward, Gold Creek, at the foot of Ward Mountain, and north end of Ward Mountain, 4,825 feet elevation, near Ward; Medicine Hot Springs, Mont.

Euconulus fulvus Drap.

This shell was collected at White's Spring, near Ward; Lost Horse Creek, near Charlos; Gold Creek, foot of Ward Mountain; Saw Tooth Mountain; north end of Ward Mountain, at an elevation of 4,825 feet; east side of Bitter Root River, near Charlos; Camas Creek Canyon; Darby, Mont.

Euconulus fulvus alaskensis Pils.

This variety was collected at Hamilton; west side of the Bitter Root River, near Ward; White's Spring West of Ward; west side of Bitter Root River, north of Ward; Gold Creek, at the foot of Ward Mountain; east side of Bitter Root River, near Charlos; at 10,000 feet elevation, near Lake Como; Grantsdale, Mont.

Cochlicopa lubrica Müll.

From west side of Bitter Root River, near Ward; White's Spring, Ward Mountain; Ward, Mont.

Hemphillia danielsi n. sp.

Most of the specimens of this slug were not mature; it was found at Bluffs near Bitter Root River, north of Ward; north end of Ward Mountain; Camas Creek Canyon; Medicine Hot Springs, Mont.

Agriolimax campestris Binn var. **montanus** Ing.

This variety was collected at White's Spring, west of Ward; Grantsdale; Darby; Medicine Hot Springs, Mont.

Columella edentula Drap.

From west side of Bitter Root River, near Ward, Mont.; White's Spring, west of Ward; Ward, Mont.

Columella alticola Ing.

Was found under a quaking asp, near Ward, Mont.

Bifidaria pentodon Say.

Was found at White's Spring, west of Ward, Mont.; Ward; near Lake Como, Bitter Root Mountains, at 6,500 feet elevation, Mont.

Vertigo ovata Say.

Was collected at Gold Creek, at the foot of Ward Mountain, Ward; Darby; Medicine Hot Springs, Mont.

Vertigo ventricosa elatior Sterki.

Taken at White's Spring, west of Ward; Darby.

Vertigo modesta parietalis Ancey.

Collected at Grantsdale, Mont.

Vertigo coloradensis basidens P. and V.

Was found at Ward, Mont.

Pyramidula occidentalis v. Marts.

This species was found at Lost Horse Canyon and north fork of Lost Horse Canyon, Mont.

Pyramidula cronkhitei Newe.

This shell was collected at Hamilton; west side of Bitter Root River, near Ward; White's Spring, west of Ward; west side of Bitter Root River, north of Ward; Gold Creek, at the foot of Ward Mountain; Saw Tooth Mountain; north end of Ward Mountain, elevation 4,825 feet, near Ward; east side of Bitter Root River, near Charlos; near Lake Como, at 10,000 feet elevation; Grantsdale; Darby, Mont.

Punctum conspectum Bld.

From White's Spring, west of Ward; Gold Creek Canyon, at the foot of Ward Mountain, at Ward; east side of Bitter Root River, near Charlos; Darby, Mont.

Succinea oregonensis Lea.

Taken at White's Spring, west of Ward; east side of Bitter Root River, near Charlos; Ward; near Lake Como, at an elevation of 6,500 feet; Darby, Mont.

Succinea nuttalliana Lea.

Was collected at Gold Creek, foot of Ward Mountain, at Ward; Grantsdale; Darby, Mont.

Planorbis parvus Say.

This shell was taken at east side of Bitter Root River, near Charlos; Grantsdale, Mont.

Planorbis umbilicatellus Ckl.

Collected at west side of Bitter Root River, near Ward, and at Ward, Mont.